September 4, 1957

Bacteriology Department

Dear Fazekas:

Esther and I are finally settled in a temporary 'home'; after travelling a bit this is quite a pleasant change, much as we enjoyed the places we have been visiting. The Bact. Dept. is our mailing address, though I am setting up some temporary facilities at the HAll.

Thanks very much for sending the ms. of your paper. May I keep this copy, or is it oneyou require? What should we call this technique: shell bits? or what? I've enjoyed very much reading it, together with the preliminaries on your stury on incomplete virus. Your most convincing experiment, to my own mind, is the comparison of yields of infective virus in your shell-bit preparations, according to whether they are supplemented or not with allantoic fluid. Do I understand correctly that even Lee will give incomplete virus in the 'washed' system?

Thinking the matter ower some more, I wonder if one can't even be a bit more precise in speculations as to the nature of the 'sites' or traps which are stabilized by the recepter. There may even be some remote analogy with the bacterial propoplast problem, on the notion that incomplete virus represents a form which has an imperfect wall, and is therefore unable to contain its RNA contents through the various stages of penetration. This would avoid any theoretical complications in regard to the 'self-reproduction' of the RNA itself; we would have to posit that a necessary element of wall formation is a pre-exisiting wall, stabilized by the adsorption of receptor substance. Indeed, is it not likely that the virus particle emerges from the yielding cell with a coat of the R.S., and that the splitting of this R.S. by the viral RDE accounts for the longer lag in the first cycle of growth? In a word, the R.S. itself may be an essential element of the viral wall? Are there data to contradict this?

As far as my extensive reading of 1 day permits me to judge, there have been very few studies specifically directed at the meaning of stability of virus suspensions, though everyone seems agreed that some protein adjuvant is necessary. Do you know of any literature on this point? If it really is a barren field, I may spend the few weeks I have to looking into this question, at least to see how to develop the analogy between incomplete virus and destabilized protoplasts. I would welcome your advice on this point. Needless to say, if I can make it work as elegantly as you have the shell-bit technique will be invaluable.

I do hope you will have some occasion to visit Melbourne before we leave (about